Title (en)

METHODS AND SYSTEMS FOR BACK-DRILLING A MULTI-LAYER CIRCUIT BOARD

Title (de)

VERFAHREN UND SYSTEME ZUM HINTERBOHREN EINER MEHRSCHICHTIGEN LEITERPLATTE

Title (fr)

PROCÉDÉS ET SYSTÈMES DE PERÇAGE PAR L'ARRIÈRE D'UNE CARTE DE CIRCUIT IMPRIMÉ MULTI-COUCHE

Publication

EP 4133912 A4 20240410 (EN)

Application

EP 21784904 A 20210407

Priority

- US 202063006538 P 20200407
- US 2021026163 W 20210407

Abstract (en)

[origin: US2021315103A1] Methods and systems for making a multi-layer circuit board are disclosed, including electrically connecting a boring device with a plated multi-layered circuit board; cutting a first bore having a first diameter through a first layer of the plated multi-layered circuit board; reciprocally extending a second cutting device a first predetermined distance into a barrel plated multi-layered circuit board and retracting the cutting device a second predetermined distance that is less than the first predetermined distance to form a second bore; after each retraction, sensing for electrical contact indicating a closed circuit between the cutting device and the plated multi-layered circuit board; if a closed circuit is sensed, determining if the second bore has reached an expected depth of a contact layer; and if the expected depth of the contact layer has not been reached, determining that a sliver has been formed in the barrel.

IPC 8 full level

H05K 3/46 (2006.01); **B23B 35/00** (2006.01); **B26F 1/16** (2006.01)

CPC (source: EP US)

H05K 3/0047 (2013.01 - EP US); H05K 3/4638 (2013.01 - EP); H05K 2203/0207 (2013.01 - EP); H05K 2203/0242 (2013.01 - EP); H05K 2203/163 (2013.01 - EP US)

Citation (search report)

- [A] US 8508248 B1 20130813 - CHENGSON DAVID P [US]
- [A] US 7669321 B1 20100302 - LEVY JOHN BENJAMIN [US], et al
- [A] DE 3206354 A1 19830901 - TELEFONBAU & NORMALZEIT GMBH [DE]
- See also references of WO 2021207351A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

US 11690177 B2 20230627; **US 2021315103 A1 20211007**; CN 115553076 A 20221230; EP 4133912 A1 20230215; EP 4133912 A4 20240410; WO 2021207351 A1 20211014

DOCDB simple family (application)

US 202117224501 A 20210407; CN 202180033786 A 20210407; EP 21784904 A 20210407; US 2021026163 W 20210407